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KDS EZFlow 2020/2021 Syringe Driver Pump

User's Manual

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KDS EZFlow 2020/2021

Contents

General Information 2
General Safety Summary 2
Specifications 3
Parts and Accessories 3
Keypad Function:
- Control Panel 4
- Keypad Description 5
- Alarm Indicators 5

Operation Instructions 6
Storage 6
Limited Warranty 7

KDS EZFlow 2020/2021

General Information

This high-volume syringe pump is a conventional device for research and development labs and universities. This syringe pump offers a reliable alternative for fluid control, especially suitable for short-term, high speed thick fluid and precise injections.

CAUTION

Important: User should read this entire manual before operating this micro-infusion syringe pump. **Keep this manual for future reference!**

General Safety Summary

WARNINGS:

1) Do not use a pump, syringe, or accessories that show any sign of damage.
2) Manufacturer assumes no responsibility for incidents that occur if the pump is not repaired according to manufacturer-authorized procedures.
3) Prime the syringe and extension tube to prevent air prior to using the pump.
4) To clean the pump, use a damp (not wet) cloth or sponge. Do not immerse pump or power cable into water or other cleaning solution.

CAUTION
Refer to Manual

Protective Ground
Terminal

KDS EZFlow 2020/2021

Specifications

Protection against electric shock	Type BF
Mode of operation	Continuous
Degree of protection against ingress of fluids	Drip-Proof IPX1
Acceptable syringe sizes	20 ml, 50/60 ml, 100 ml
Pre-set infusion times	4, 8, 12, 16 and 20 minutes
Accuracy	± 20 seconds
Operating temperature	41˚F - 104˚F (5 - 40˚C)
Relative Humidity	80% max.
Power requirements	120VAC 60 Hz 6VA
Ambient temperature	5˚- 40˚C (41˚F - 104˚F)
Dimensions	13” X 4.5” X 4.5”
Weight	4.4 pounds (2 kg)
Battery operation at a flow rate of 50 ml/hr, assuming fully charged battery	4 hours

This Micro-Infusion Syringe Pump uses a precision motor for injections of desired fluids.

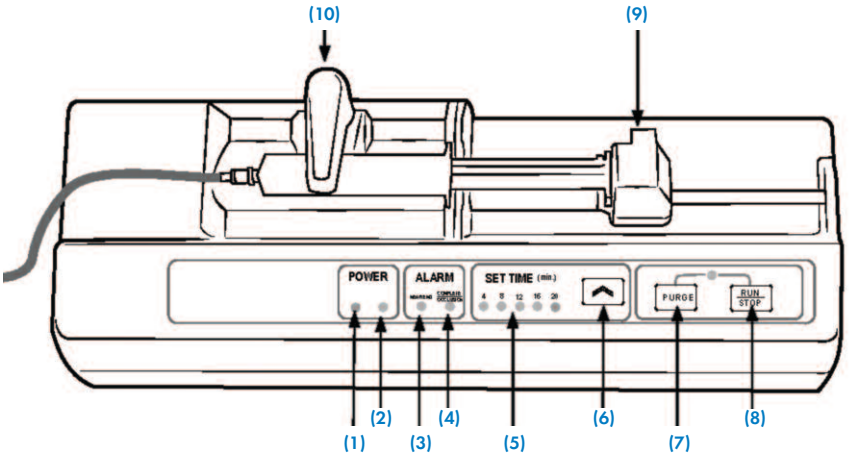
- Audible and Visual Alarms of “Near Empty”, “Complete”, “Occlusion” and “Low Batt”
- Wide range of compatible syringe: 20 ml, 50/60ml, 100ml
- Waterproof ergonomic touch control panel

Parts and Accessories

Order #	**Model**	**Product**
78-0560	EZFlow 2020	EZFlow Syringe Driver Pump, 110 VAC
78-1560	EZFlow 2021	EZFlow Syringe Driver Pump, 220 VAC
78-0561		IV Pole Mount

Keypad Function

CONTROL PANEL



1) AC POWER indicator
2) Built-in battery indicator
3) Near end alarm
4) COMPLETE/OCCLUSION alarm
5) SET TIME indicator
6) SET TIME button
7) PURGE
8) RUN/STOP
9) Syringe driver head
10) Syringe securing bar

Keypad Function: (Continued)

KEYPAD DESCRIPTION

	SET TIME - Activated only in STOP mode. When pressed, sets the desired time. `SET TIME' indicator should illuminate.
	PURGE - Only functions in STOP mode. When pressed, starts purging tubing set.
	RUN/STOP - Press to start or stop the pump. `MODE' indicator should illuminate.

ALARMS AND INDICATOR LIGHTS

	NEAR END - When there is approximately one minute of infusion time remaining, this indicator flashes and the alarm buzzer sounds. To silence the alarm, press the `RUN/STOP' button.
	COMPLETE/OCCLUSION - When infusion is complete, the indicator is illuminated in red and the alarm buzzer sounds. When the device senses an occlusion by not being able to drive with a force of 6.5kg ± 1 kg, the indicator is illuminated in red and the alarm buzzer sounds. To silence the alarm, press the `RUN/STOP' button.
	The battery indicator light (ornage) indicates the driver is using built-in battery power. this light and AC power light (green) will blink together if battery is low.
	AC power light (green) indicates the pump is connected to mains AC power and is charging the battery.

Operation Instructions

1) Load the syringe with the desired fluid. Lift up the syringe securing knob and rotate towards the right 90˚. Place the syringe into the bed. Insert the nozzle into the syringe slot. Press and hold the secure button on the driver to bring the driver block into a position that the extremity of the syringe plunger can be placed into the driver slot. Turn the securing knob to the left 90˚, and secure the syringe.

2) The ON/OFF switch at the left side of the pump is a power switch. Connect the power cable to a wall outlet and turn the pump on. Press and hold the "PURGE" button to purge the syringe and the set tubing.

3) Press the "SET TIME" button to preset the desired infusion time, while the green light indicates a corresponding number is on.

4) Press the "RUN/STOP" button to start infusion; the running green light will be on. During the infusion, the "SET TIME" and "RAPID" buttons are locked. If you need to adjust the infusion time setting, press "RUN/STOP" followed by "SET TIME" button to reset the infusion time. To continue operation, press "RUN/STOP" again.

5) During the infusion, when "RUN/STOP" is pressed, the pump stops operation and goes into a HOLD mode with operation indicator (green) on. To continue the rest of infusion with the original setting, simply press "RUN/STOP" again.

NOTE:

- **a)** If there is an adjustment on the syringe or a resetting of the infusion time, the pump will begin infusion with the new settings. Otherwise, when "RUN/STOP" is pressed, the pump will continue the rest of infusion with the original settings.
- **b)** If the syringe or the tubing becomes occluded beyond the pump's capability to pump, the alarm will activate and the OCCLUSION indicator (red) will come on. The pump will stop operating.
- **c)** To remove the syringe, lift up the syringe securing knob and rotate right 90˚. The RUN indicator goes off when the syringe is removed.

Storage

This product should be stored in an environment with ambient temperature range of 14˚F-131˚F, (-10˚C-55˚C) relative humidity below 93% and air pressure 500hpa~1060hpa. Do not store close to corrosive vapor and/or harmful impurities.

Limited Warranty

KD Scientific Inc. warrants to the first consumer purchaser, for a period of one year from the date of purchase that this unit, when shipped in its original container, will be free from defective workmanship and materials and agree that it will, at its option, either repair or replace the defective unit.

This warranty does not extend to misuse, neglect or abuse, normal wear and tear, accident, modification or unauthorised repair.

KD Scientific will not be liable or in any way responsible for any incidental or consequential economic or property damage. Some States do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

There are no implied warranties of merchantability, or fitness for a particular use, or of any other nature. Some states do not allow this limitation on implied warranty, so the above limitation may not apply to you.

If a defect arises within the warranty period contact KD Scientific Inc., (see address below).

The customer is responsible for shipping charges and must first obtain a Return Material Authorization number (RMA) before the unit will be accepted. If a replacement unit is issued it is covered only for the remainder of the original warranty period dating from the purchase of the original device.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

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